

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A system comprising:
a message server ~~having no persistent state such that the message server can~~ that is configured to
be restarted after a failure without performing state recovery operations; and
a plurality of instances of an application server coupled in a star topology with the message
server at a center of the star topology, the message server handling communications
between the plurality of instances of the application server, ~~[[,]]~~ one or more of the
plurality of instances to register or reregister instance-specific information with the
message server upon a starting or restarting, respectively, of the message server, the
instance-specific information ~~including an identifying one or more services instance~~
~~number, the instance number identifying the associated~~ that the one or more of the
plurality of instances is configured to provide to each of the plurality of instances to the
~~message server.~~
2. (Currently Amended) The system of claim 1 wherein each of the plurality of instances
comprises:
a dispatcher node; and
a plurality of server nodes.
3. (Currently Amended) The system of claim 2 wherein each of the plurality of server
nodes comprises ~~[[:]]~~ a java 2 enterprise edition (J2EE) engine.
4. (Currently Amended) The system of claim 1 further comprising ~~[[:]]~~ a central lock server
to provide cluster wide locks to the plurality of instances.
5. (Currently Amended) The system of claim 1 wherein the message server comprises:
a first data structure to store a list of connected clients; and
a second data structure ~~[[and]]~~ to store a list of services provided in the system.

6. (Currently Amended) A non-transitory computer readable storage media containing executable computer program instructions which when executed cause a digital processing system to perform a method comprising:
- starting a central services node to provide a locking service and a messaging service, the messaging service configured to be restarted after a failure without performing state recovery operations having no persistent state, the messaging service handling communications between a plurality of application server instances;
- starting the plurality of application server instances;
- organizing the application server instances into a cluster having star topology with the central services node at a center of the star topology; and
- registering or reregistering instance-specific information with the central services node upon starting or restarting, respectively, of the central services node, the registering or registering initiated by one or more of the plurality of application server instances, the instance-specific information ~~including an identifying one or more services instance number, the instance number identifying the associated~~ that the one or more of the plurality of application server instances are configured to provide to each of the plurality of application server instances to the message server.
7. (Currently Amended) The non-transitory computer readable storage media of claim 6, ~~containing executable computer program instructions which when executed cause a digital processing system to perform~~ the method further comprising~~[[:]]~~ sharing a database among the plurality of application server instances.
8. (Currently Amended) The non-transitory computer readable storage media of 6, ~~containing executable computer program instructions which when executed cause a digital processing system to perform~~ the method wherein starting a plurality of application server instances comprises~~[[:]]~~ starting, for each application server instance of the plurality, a dispatcher node and a plurality of server nodes.

9. (Currently Amended) The non-transitory computer readable storage media of claim 6, ~~containing executable computer program instructions which when executed cause a digital processing system to perform~~ the method further comprising[[:]] starting a message server having no persistent state.
10. (Canceled)
11. (Currently Amended) The non-transitory computer readable storage media of claim 6, ~~containing executable computer program instructions which when executed cause a digital processing system to perform the method further comprising[[:]]~~ conducting inter instance communication through the messaging service.
12. (Currently Amended) The non-transitory computer readable storage media of claim 9, ~~containing executable computer program instructions which when executed cause a digital processing system to perform the method further comprising[[:]]~~ restarting the message server without state recovery responsive to a system failure.
13. (Currently Amended) The non-transitory computer readable storage media of claim 10, ~~containing executable computer program instructions which when executed cause a digital processing system to perform the method further comprising[[:]]~~ notifying all registered instances from the message server when an additional instance joins the cluster.

14. (Currently Amended) A system comprising:

means for organizing a plurality of application servers instances into a cluster having a star topology with a central services node at a center of the star topology;

means for sharing a storage resource across the cluster; and

means for performing centralized inter instances communication that is configured to be restarted after a failure without performing state recovery operations without maintenance of persistent state information, the inter instances communication including registering or reregistering of instance-specific information with the central services node upon a starting or restarting, respectively, of the central services node, the registering or reregistering initiated by one or more of the plurality of application server instances, the instance-specific information including an identifying one or more instance number services, the instance number identifying the associated instance that the one or more of the plurality of application server instances are configured to provide to each of the plurality of application server instances to the message server.

15. (Currently Amended) The system of claim 14 further comprising~~[[::]]~~ means for ~~centralized~~ centrally locking ~~[[of]]~~ a resource within the cluster.

16. (Currently Amended) The system of claim 14 wherein the means for performing comprises~~[[::]]~~ a message server having no persistent state.

17. (Currently Amended) The system of claim 14 wherein the means for performing comprises~~[[::]]~~ means for recording services provided in the cluster.

18. (Currently Amended) A method comprising:

starting a central services node to provide a locking service and a messaging service, the

messaging service being configured to be restarted after a failure without performing state recovery operations not maintaining a persistent state, the messaging service handling communications between a plurality of application server instances;

starting [[a]] the plurality of application server instances;

organizing the plurality of application server instances into a cluster having a star topology with the central services node at a center of the star topology; and

registering or reregistering instance-specific information with the central services node upon a

starting or a restarting, respectively, of the central services node, ~~the registering or~~

~~reregistering initiated by one or more of the plurality of application server instances~~; the

~~instance-specific information including an identifying one or more instance number~~

~~services, the instance number identifying the associated instance the one or more of the~~

~~plurality of application server instances are configured to provide to each of the plurality~~

~~of application server instances to the message server.~~

19. (Currently Amended) The method of claim 18 further comprising~~[[:]]~~ sharing a database among the plurality of application server instances.

20. (Currently Amended) The method of claim 18 wherein starting a plurality of application server instances comprises~~[[:]]~~ starting, for each instance of the plurality, a dispatcher node and a plurality of server nodes.

21. (Currently Amended) The method of claim 18 wherein ~~starting a central service node~~ comprises: starting a the message server having messaging service has no persistent state.

22. (Canceled)

23. (Currently Amended) The method of claim 18 further comprising~~[[:]]~~ conducting inter instance communication through the messaging service.

24. (Currently Amended) The method of claim 21 further comprising[[:]] restarting the message server without state recovery responsive to a system failure.
25. (Currently Amended) The method of claim 22 wherein organizing further comprises[[:]] notifying all registered instances from the message server when an additional instance joins the cluster.
26. (Canceled)
27. (Canceled)
28. (Currently Amended) The system of claim [[26]] 18, wherein further comprising notifying each of the registered plurality of application server instances is notified by the message server when an additional instance registers with the message server of the registering or reregistering of the instance-specific information.
29. (Previously Presented) The system of claim 1, wherein each of the plurality of instances is started using a first instance-specific bootstrap logic, the first instance-specific bootstrap logic synchronized with a second instance-specific bootstrap logic stored in the database.
30. (Previously Presented) The system of claim 1, wherein a node within the plurality of instances is started using a first node-specific bootstrap logic, the first node-specific bootstrap logic synchronized with a second node-specific bootstrap logic stored in the database.
31. (Previously Presented) The method of claim 18, wherein the instance-specific information further includes information about a new service that the one or more of the plurality of instances provide.
32. (Previously Presented) The system of claim 1, wherein the plurality of instances are unable to communicate with each other during a failure of the message server.